OIB - DC-8 11/11/16 Science Report

Aircraft:
DC-8 (See full schedule)
Date:
Friday, November 11, 2016
Mission:
OIB
Mission Location:
English Coast, West Antarctica (English Coast 02)
Mission Summary:

Mission: English Coast 02 (priority: high)

This is a new flight, primarily designed to map the bathymetry beneath the Stange Ice Shelf, and the western extremity of the George VI Ice Shelf, along a 20 km coast-parallel grid. This grid is designed to improve the 20 km grid spacing achieved with the English Coast 01 flight to a 10-km combined grid. This grid connects with the Ferrigno-Alison grid in the west, and overlaps the George VI grid in the east.

Observations and forecasts suggested viable missions for English Coast and Hull Land only. Of those two, Hull Land had a slightly better forecast, but was significantly lower priority, so we selected English Coast 02. The predicted stratus layer was observed, but unfortunately it did not dissipate in the manner predicted. Outflow from the ice-sheet plateau within the center of the grid cleared out the layer, but it persisted at both the western and eastern ends of the grid lines. As a result of cloud cover on portions of each line on the grid (typically ~50%, decreasing downstream), useful data was not able to collected by ATM/DMS/FLIR during those portions. We climbed to to avoid the layer when necessary, but were still able to collect radar and gravity data during those periods.

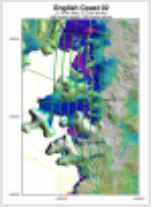
All instruments performed well. The DMS position laptop crashed at the beginning of one of the grid lines and had to be rebooted, but it does not appear to have affected data collection.

We conducted a ramp pass at 1200' on departure.

Attached images are:
1. Map of today's flight.
2. Polynya along the edge of the George VI Ice Shelf (NASA / John Sonntag).
3. Ice tongue in miniature, George VI Ice Shelf (NASA / Joe MacGregor).
4. Jigsaw rifting, George VI Ice Shelf (NASA / Joe MacGregor)

Images:

Map of today's flight



Read more

Polynya along the edge of the George VI Ice Shelf

Read more

Ice tongue in miniature, George VI Ice Shelf

Read more

Jigsaw rifting, George VI Ice Shelf

Read more

Submitted by:
Joseph MacGregor on 11/15/16
Related Flight Report:

DC-8 11/11/16 - 11/12/16

Flight Number:
1158
Payload Configuration:
OIB-ATM NAV/ATM GPS/ATM-T5/T6/ATM FLIR/ATM CAMBOT MCoRDS/SNOW/Ku RADAR DMS/POS-AV GRAVIMETER & ARMAS (piggyback)
Nav Data Collected:
Yes
Total Flight Time:
11.3 hours
Submitted by:
Timothy Moes on 11/13/16
Flight Segments:

From:	SCCI-Punta Arenas	**To:**	SCCI
Start:	11/11/16 12:55 Z	**Finish:**	11/12/16 00:10 Z
Flight Time:	11.3 hours		
Log Number:	178010	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Good flight. This was a new flight primarily designed to map the bathymetry beneath the Stange Ice Shelf, and the western extremity of the George VI Ice Shelf, along a 20 km coast-parallel grid. There were clouds obscuring some of the lines for some of the instruments. All instruments performed well. The aircraft did well. #1 60hz converter providing instrument power failed during the RTB. Instrument power was transferred to converter #2.		

Flight Hour Summary:

	178010
Flight Hours Approved in SOFRS	300
Total Used	306.9
Total Remaining	-6.9

178010 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
10/04/16	1135	Science	4	4	296
10/05/16	1136	Science	2.7	6.7	293.3
10/12/16	1138	Transit	10.9	17.6	282.4
10/12/16	1139	Transit	3	20.6	279.4
10/14/16 - 10/15/16	1140	Science	10.9	31.5	268.5
10/15/16 - 10/16/16	1141	Science	11.8	43.3	256.7
10/17/16 - 10/18/16	1142	Science	11.8	55.1	244.9
10/20/16 - 10/21/16	1143	Science	11.4	66.5	233.5
10/22/16	1144	Science	11	77.5	222.5
10/24/16 - 10/25/16	1145	Science	11.5	89	211
10/25/16 - 10/26/16	1146	Science	11.3	100.3	199.7
10/26/16 - 10/27/16	1147	Science	12.1	112.4	187.6
10/27/16 - 10/28/16	1148	Science	11.5	123.9	176.1
10/28/16 - 10/29/16	1149	Science	11	134.9	165.1
10/31/16 - 11/01/16	1150	Science	11	145.9	154.1
11/02/16 - 11/03/16	1151	Science	11.2	157.1	142.9
11/03/16 - 11/04/16	1152	Science	11.5	168.6	131.4
11/04/16 - 11/05/16	1153	Science	11.1	179.7	120.3
11/05/16 - 11/06/16	1154	Science	11.7	191.4	108.6
11/07/16 - 11/08/16	1155	Science	11.2	202.6	97.4
11/09/16 - 11/10/16	1156	Science	11.7	214.3	85.7
11/10/16	1157	Science	10.9	225.2	74.8
11/11/16 - 11/12/16	1158	Science	11.3	236.5	63.5
11/12/16 - 11/13/16	1159	Science	11.1	247.6	52.4
11/14/16	1160	Science	10.9	258.5	41.5
11/15/16 - 11/16/16	1161	Science	11.6	270.1	29.9
11/17/16 - 11/18/16	1162	Science	11.1	281.2	18.8
11/18/16 - 11/19/16	1163	Science	11.1	292.3	7.7

11/21/16	1165	Transit	11.6	303.9	-3.9
11/21/16	1164	Transit	3	306.9	-6.9

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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